#### (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

#### (19) World Intellectual Property Organization International Bureau



## 1001

#### (43) International Publication Date 9 September 2005 (09.09.2005)

#### PCT

# (10) International Publication Number WO 2005/083833 A1

(51) International Patent Classification<sup>7</sup>: 1/48, 1/52

H01Q 1/24,

(21) International Application Number:

PCT/EP2005/002075

(22) International Filing Date: 28 February 2005 (28.02.2005)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

26 February 2004 (26.02.2004) US

60/548,050 60/567,615

3 May 2004 (28.02.2004) US

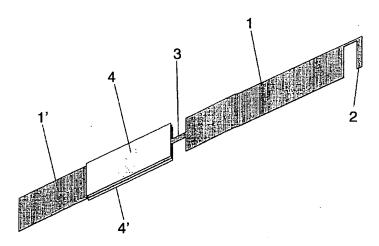
- (71) Applicant (for all designated States except US): FRAC-TUS, S.A. [ES/ES]; Alcalde Barnils, 64-68 Ed. TESTA, Mod. C3, Parque, Empresarial Sant Joan, E-08190 Sant Cugat del Valles (ES).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): PUENTE BALIARDA, Carles [ES/ES]; Londres 57, 4-2, E-08036

Barcelona (ES). ANGUERA PROS, Jaume [ES/ES]; Paseo Blasco Ibañez, 15-2, E-12500 Vinaros (ES).

- (74) Agent: CARPINTERO LOPEZ, Francisco; Herrero & Asociados, S.L., Alcala, 35, E-28014 Madrid (ES).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: HANDSET WITH ELECTROMAGNETIC BRA



(57) Abstract: The present invention relates to a handset and generally of any handheld device, which includes an antenna for receiving and transmitting electromagnetic wave signals. More in particular, the invention is related to handsets of the clamshell or flip-phone type. An electromagnetic bra structure is introduced to correct the position of the lobes of the handheld radiation pattern, so that the radiation and sensitivity of the hand held device is increased in the horizontal plane or generally to the other desired directions. The electromagnetic bra structure comprises at least one conducting surface arranged over at least one side of a ground plane of the handset, so that a resonance circuit having a high impedance at an operating frequency of the antenna is establish, to block currents and electromagnetic fields from entering a region of the ground plane.



## WO 2005/083833 A1



#### Declarations under Rule 4.17:

- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for all designations
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for all designations

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

### Published:

- with international search report